RESEARCH FUNDING AT

ALBERTA UNIVERSITIES

1999/2000 REPORT

March 2001

UNIVERSITY RESEARCH AND
STRATEGIC INVESTMENTS BRANCH

alberta
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& science

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INTRODUCTION - UNIVERSITY RESEARCH IN ALBERTA

Research conducted at Alberta's universities:

- creates new knowledge that adds to the existing body of understanding;
- disseminates knowledge to inform and enhance learning;
- contributes to the training of highly qualified personnel, including the next generation of university researchers as well as knowledge workers for industry;
- contributes to the social, cultural and economic well-being of the province and of individual Albertans.

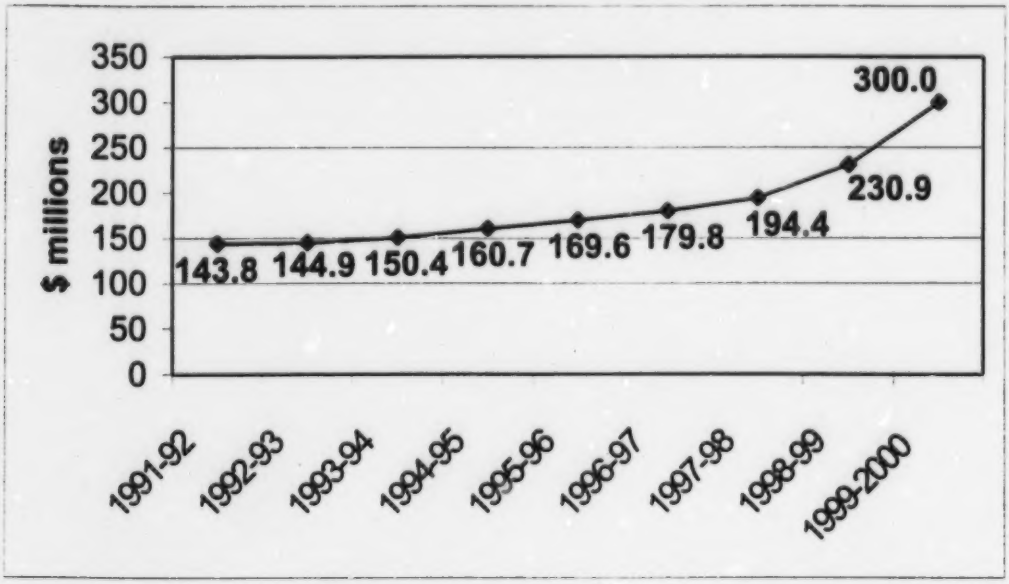
Technology and the economy are changing at a rapid pace. As such, innovation has become a central component to sustaining Alberta's economic competitiveness and acquiring and retaining a high quality of life for Albertans.

University research plays a vital role in the innovation process. Research conducted in Alberta's universities contributes to the search for innovative discoveries that have the potential for far-reaching economic and social implications. It also, through the university educational experience, contributes to the development of people with scientific knowledge and problem-solving skills that can be applied throughout society and a wide range of industries. A key output of a university is its graduates because of the skills and knowledge that they possess.

In addition, the past research success of a university is a key determinant in attracting future resources. These resources come in the form of people (quality faculty and students) and financial support (sponsored research funding and infrastructure). These resources in turn improve the quality of both the institution's research and educational programs.

Total Sponsored Research Revenue to Alberta Universities 1991/1992 to 1999/2000

FIGURE 1



Sources: University of Alberta: Research Grants Office; the University of Calgary: Financial Services; The University of Lethbridge: Financial Services; Athabasca University: Office of the Vice-President, Academic.

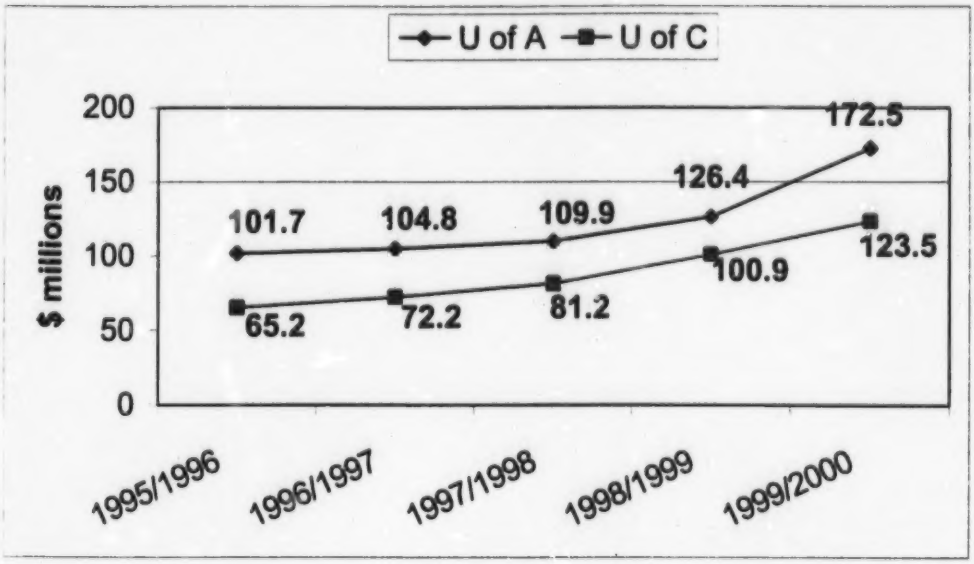
- During fiscal year 1999/2000, $300.0 million in direct external funding was received by Alberta's four universities in support of research, a 29.9% increase from 1998/1999.
- Total sponsored research funding from all sources to Alberta's university system has been growing on average by 13.7% per year for the last 5 years.

Fiscal Year	Amount of Funding	Increase from previous year
1999/2000	$300.0 million	29.9%
1998/1999	$230.9 million	18.8%
1997/1998	$194.4 million	8.1%
1996/1997	$179.8 million	6.0%
1995/1996	$169.6 million	5.5%

- From 1995/1996, funding to Alberta's universities has increased by 76.9%.

Total Sponsored Research Revenue to University of Alberta and The University of Calgary 1995/1996 to 1999/2000

FIGURE 2



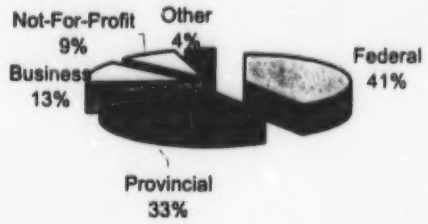
Sources: University of Alberta: Research Grants Office; the University of Calgary: Financial Services.

- In the last five years, total research funding from all sources to the University of Alberta has increased by 69.6%. The University of Calgary's funding has increased by 89.4% during the same period.
- The University of Alberta received $172.5 million in research funding in 1999/2000, a 36.5% increase from the previous year ($126.4 million).
- The University of Calgary received $123.5 million in research funding in 1999/2000, a 22.4% increase from the previous year ($100.9 million).
- During fiscal year 1999/2000, The University of Lethbridge received $3.7 million, an 11.2% increase from the previous year.
- The University of Lethbridge has been successful in consistently increasing their levels of support each year. (see Table 1, pg. 16, for comparative details)
- Athabasca University received $323,000 in support of research during the 1999/2000 fiscal year.

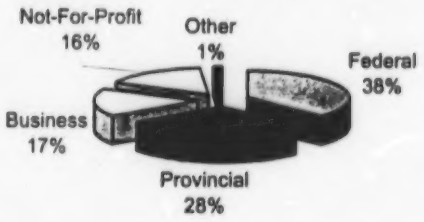
Total Sponsored Research Revenue by Source to University of Alberta, The University of Calgary, The University of Lethbridge , and Athabasca University 1999/2000

FIGURE 3

University of Alberta - $172.5 M



University of Calgary - $123.5 M



University of Lethbridge - $3.7 M

Athabasca University - $0.3 M

Sources: University of Alberta: Research Grants Office; the University of Calgary: Financial Services; The University of Lethbridge: Financial Services; Athabasca University: Office of the Vice-President, Academic.

- Funding to the University of Alberta from provincial sources was $56.5 million, an increase of 60.6% from 1998/1999, and federal funding was $70.5 million, an increase of 32.9%from the previous year. From 1996/1997, the University of Alberta has increased funding received from provincial sources by 184.3% and from federal sources by 42.5%.

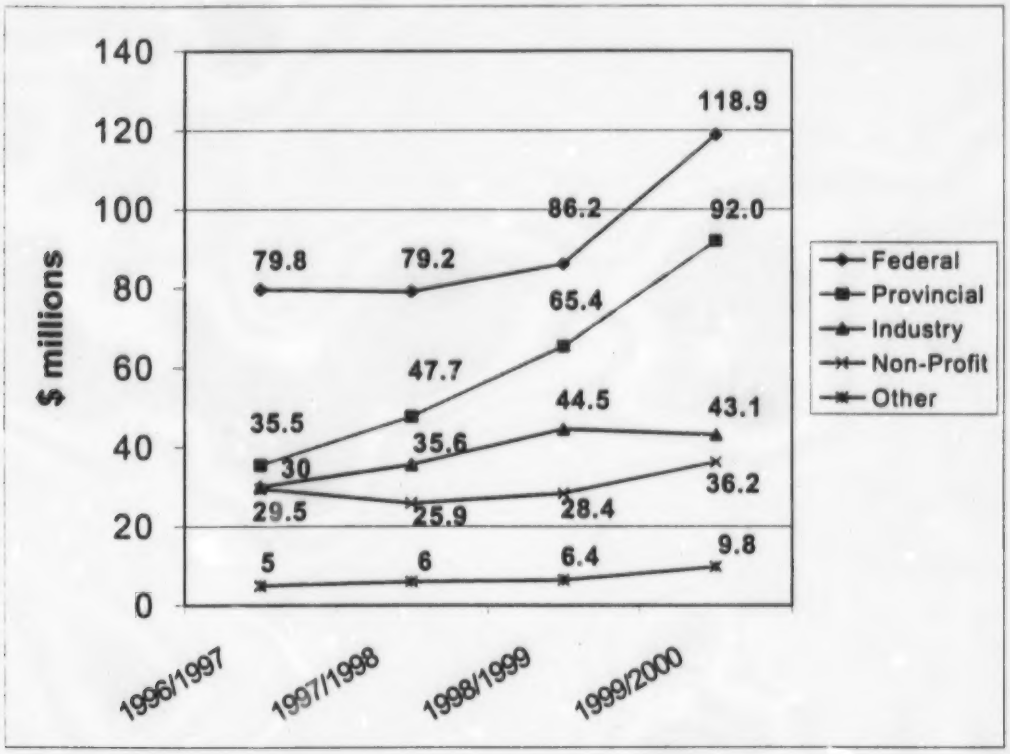
- Funding to the University of Calgary from provincial sources was $34.4 million, an increase of 18.1% from 1998/1999, and federal funding was $46.1 million, an increase of 47.7% from the previous year. From 1996/1997, the University of Calgary has increased funding received from provincial sources by 127.7% and from federal sources by 61.6%.

- Increases in government funding reflect the introduction of new programs, at both the federal and provincial levels, aimed at strategically investing in university research.

- The University of Lethbridge and Athabasca University underwent fluctuations in levels of government funding (see Table 1, pg. 16, for details). Such fluctuations in federal and provincial funding levels are expected in smaller universities, due to program cycles and completion and start time of funded research projects.

Total Sponsored Research Revenue by Source to Alberta Universities 1996/1997 to 1999/2000

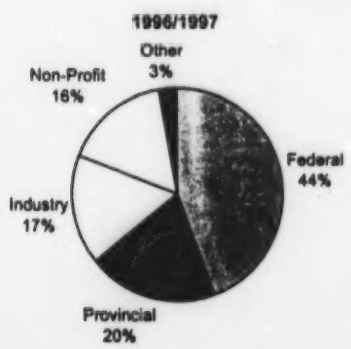
FIGURE 4A

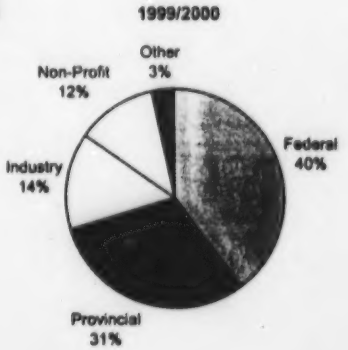


Sources: University of Alberta: Research Grants Office; the University of Calgary: Financial Services; The University of Lethbridge: Financial Services; Athabasca University: Office of the VP, Academic.

- For the past three years, funding to universities has been steadily increasing from federal, provincial, and non-profit sources.
- The following graphs show how funding from various sources has changed as a percentage of total funding over a four year period. The provincial government has substantially increased its commitment to research at Alberta's universities.

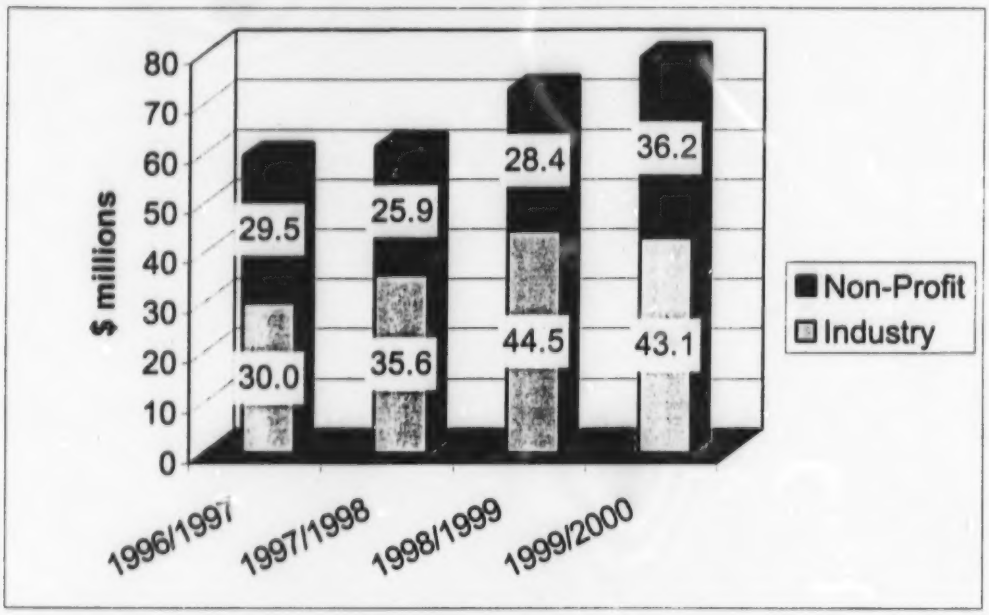
FIGURE 4B





Industry and Non-Profit Organizations' Support for Sponsored Research 1996/1997 to 1999/2000

FIGURE 5

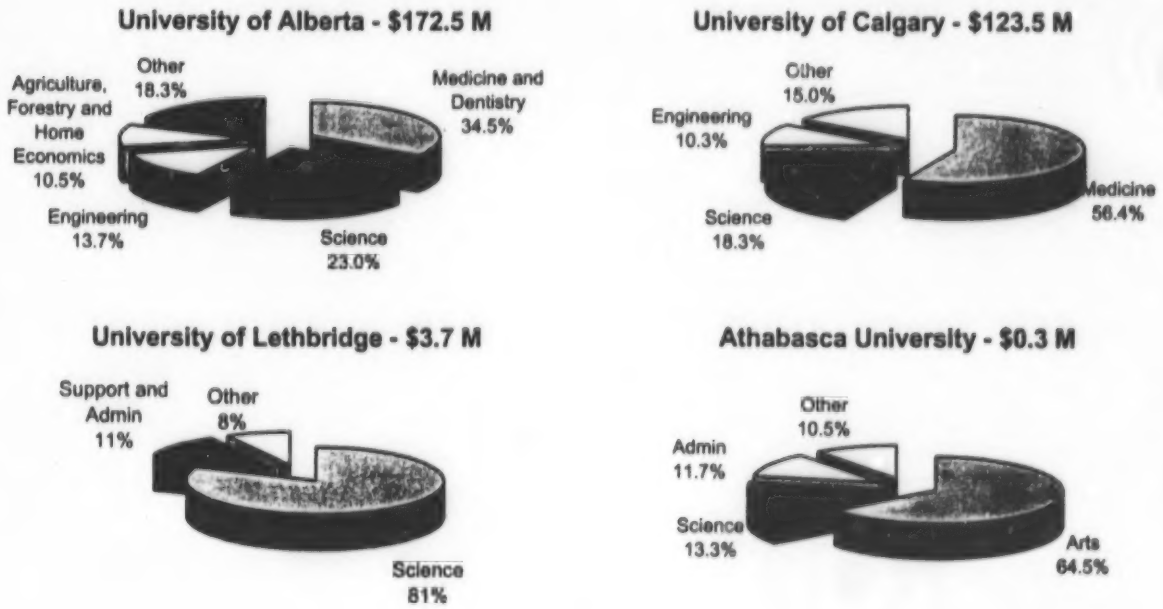


Sources: University of Alberta: Research Grants Office; the University of Calgary: Financial Services; The University of Lethbridge: Financial Services; Athabasca University: Office of the VP, Academic.

- The level of sponsored research funding provided to universities by industry and non-profit sources is an indicator of the relevance and importance of the universities' research effort to the community and business sectors.
- The total level of funding provided by the community and business sectors to Alberta universities continues to grow, with these sources making up a combined total of about $79.3 million or 26% of total sponsored research funding.
- 1999/2000 saw a small dip in funding from Industry of $1.4 million or 3.2 %. However, industry has demonstrated a commitment to innovation and economic growth by increasing its investment in research by approximately 43.7% between 1996/1997 and 1999/2000.
- The non-profit sector has increased its funding to university research by 22.7% since 1996/1997 to $36.2 million.

Distribution of Total Sponsored Research Revenue Within University of Alberta, The University of Calgary, The University of Lethbridge, and Athabasca University 1999/2000

FIGURE 6



Sources: University of Alberta: Research Grants Office; the University of Calgary: Financial Services; The University of Lethbridge: Financial Services; Athabasca University: Office of the VP, Academic

- The distribution of funding between faculties at the University of Alberta and the University of Calgary follows a consistent historical pattern. The largest proportion of research funding is secured by the Faculties of Medicine (34.5% at the University of Alberta and 56.4% at the University of Calgary in 1999/2000), followed by the Faculties of Science (23.0% at the University of Alberta and 18.3% at the University of Calgary), and by the Faculties of Engineering (13.7% at the University of Alberta and 10.3% at the University of Calgary).

- The proportional allocation of research funding to faculties at The University of Lethbridge also follows a consistent historical pattern, the greatest share of funding being secured by the Faculty of Science - a share that has increased to 81% in 1999/2000 from 64% in 1995/1996.

- Athabasca University has the majority of sponsored research revenue in the Faculty of Arts (64.5% in 1999/2000).

- It should be noted that funding amounts vary by discipline but, the intensity of research in faculties is not necessarily commensurate with monetary allocations to faculties. For example, research activities in the Arts, Humanities, and Social Sciences tend to be less costly to conduct, therefore, the intensity of such research is not necessarily reflected in monetary terms.

Support for Research at Alberta's Universities through Alberta Innovation and Science, Alberta Science and Research Authority (ASRA), and Alberta Learning

Research at Alberta universities is supported in part by the provincial government through Alberta Innovation and Science, Alberta Science and Research Authority (ASRA), and Alberta Learning. This is done through the use of the following tools:

- Operating grant (Learning)
- Performance Envelope (Learning)
- Intellectual Infrastructure Partnership Program (IIPP) (Innovation and Science/ASRA)
- Research Excellence Envelope (REE) (Innovation and Science/ASRA)
- Science and Research Fund (S & R Fund) (Innovation and Science/ASRA)
- Innovation and Science Research Investments Program (ISRIP) (Innovation and Science/ASRA)

Research funding provided by Innovation and Science and ASRA programs does not generally support specific research projects, instead programs fund widely-applicable university research infrastructure. However, there is a clear link between funding general infrastructure and attracting additional external funding for research activities (i.e. As better infrastructure is put in place, the potential to attract funding for research activities increases).

Operating Grant

The total 1999/2000 base operating grant, which includes funding for teaching, research, and administration activities, for the University of Alberta, the University of Calgary, and The University of Lethbridge was $430.5 million. Approximately 40% of which has been estimated to go directly or indirectly towards supporting research activities.

Performance Envelope

The research component of Learning's Performance Envelope provides additional funding based on the extent to which Alberta universities meet agreed upon research targets. These targets are a subset of the department's Key Performance Indicators (KPIs) which are specifically dedicated to research. This involves comparisons with their respective peer universities and the level of support they received from communities and industries. The amount of the grant is calculated by multiplying the KPI score times a predetermined share of the operating grant. The University of Alberta and the University of Calgary Envelope is based on 20% of the operating grant and The University of Lethbridge is based on 8%. In 1999/2000, the University of Alberta, the University of Calgary, and The University of Lethbridge received $1,102,783 from the research component of the Performance Envelope.

Financial Reporting Note for IIPP, REE, and the S&R Fund

The IIPP, REE, and S&R Fund tables in this section show the total funding amounts awarded to universities in 1999/2000 and thus differ from the amounts recorded under these categories in Table 1 (pg. 16). These award totals are included in this section of the report to give a sense of the overall 1999/2000 funding contribution that these sources provided to research at Alberta universities.

REE revenue recorded in Table 1 (pg. 16) is reported on a *cash-flow basis*.

IIPP projects are reported on a *modified cash-flow basis* - revenues cannot be reported until all partner funding is secured. Securing partner funding is a contractual condition, which must be met before funding can be expensed for all IIPP projects. Therefore only projects which have all funding secured in 1999/2000 are reported and included in Table 1 (pg. 16) totals. When partner funding is secured for projects not reported in 1999/2000, revenue will be reflected in future Table 1 (pg. 16) totals.

Science and Research Fund revenue is included in this year's report on the same *modified cash-flow basis* as used with IIPP. This source is contained in 1997/1998 totals (Table 1, pg. 16), but is included in "Other". It is separated for the first time in 1998/1999.

Intellectual Infrastructure Partnership Program (IIPP)
Begun in 1997 with funding of $15 million per annum, which was later expanded to a total of $75 million over 5 years, IIPP is designed to increase research excellence and competitiveness of Alberta universities and research hospitals by investing strategically in their research infrastructure.

The major objectives of IIPP are to promote high quality university research through the development of institutional and collaborative centres of research excellence and to encourage projects that strengthen the research infrastructure in areas of strategic importance to the province. Another key objective of IIPP is to help Alberta universities attract and retain high quality faculty and graduate students.

The program funds, on average, 40% of total project costs and is designed to leverage partner funding from both the private sector and federal government. Partner funds come from various sources including, the Canada Foundation for Innovation (CFI), the Alberta Heritage Foundation for Medical Research (AHFMR), and the Alberta Science and Research Authority (ASRA). Significant funds are also contributed by business and industry, non-profit organizations, universities, and other government sources.

In 1999/2000, IIPP awarded $3.0 million in Small Equipment Grants (equipment valued at under $350,000) to the universities. Another $24 million was awarded for 17 projects over the next 3 years under the IIPP Strategic Development Program. All projects funded under the Strategic Development Program in 1999/2000 are listed in Table 2 (pg. 17).

1999/2000 Innovation and Infrastructure and Partnership Program (IIPP)		
	Strategic Development	Small Equipment Grant
University of Alberta	$5,798,300	$1,662,000
University of Calgary	$11,574,873	$1,113,000
University of Lethbridge	$4,500,000	$180,000
Athabasca University	-	$45,000
Joint	$2,155,600	-
TOTAL	**$24,028,773**	**$3,000,000**

Research Excellence Envelope (REE)
Begun in 1996 with $2 million per annum, and later increased to $3.5 million in 1997, REE is designed to help universities remain competitive by providing funds to help them attract and retain researchers. REE funds complement contributions from the universities and their partners towards the total start-up and development costs of key faculty.

The grant is allocated to the universities on the basis of a formula that recognizes the success of researchers in receiving federal granting council awards and the number of faculty per institution. Universities internally allocate REE funding following processes designed to ensure that funds are directed to areas of strategic importance.

Funds are used to purchase or upgrade equipment, adapt laboratory or other space, and to help with other costs, such as travel related to research, expensive supplies, and support for graduate students or associates involved in the research programs of the targeted researcher.

In late 1999/2000, REE was given a one-time augmentation to funding of $2,000,000. The majority of these additional funds were not allocated to researchers (awardees) in the 1999/2000 fiscal year and are carried forward for 2000/2001.

REE funds were allocated across the spectrum of faculties at all universities. The faculties of medicine, science, agriculture, and engineering received the largest shares and targeted the greatest number of researchers.

Other funds leveraged with REE funds were from many sources including, universities, federal granting councils, non-profit and private sectors, and other provincial sources such as the Alberta Heritage Foundation for Medical Research (AHFMR).

The following table shows the breakdown for the 1999/2000 REE grant, including the number of researchers awarded. Further information on REE is available in the *"Report Highlights of the 1999/2000 Research Excellence Envelope, March 2001".*

1999/2000 REE Grant				
Institution	***Received**	**Allocated to researchers**	**Awardees**	**Carry Forward to 2000/2001**
University of Alberta	$3,038,764	$2,622,962	47	$415,802
University of Calgary	$2,046,226	$1,054,699	73	$991,527
University of Lethbridge	$330,000	$210,000	18	$120,000
Athabasca University	$85,010	$85,010	28	-
TOTAL	**$5,500,000**	**$3,972,671**	**166**	**$1,527,330**

*These amounts include the $2 million special augmentation

Science and Research Fund
Formed in 1997, the fund supports important strategic research initiatives that produce human, social, environmental, or economic benefits for Albertans.

In 1999/2000, $22.3 million was awarded for 29 projects over the next 3 years. All projects funded under the Science and Research Fund in 1999/2000 are listed in Table 3 (pg. 18).

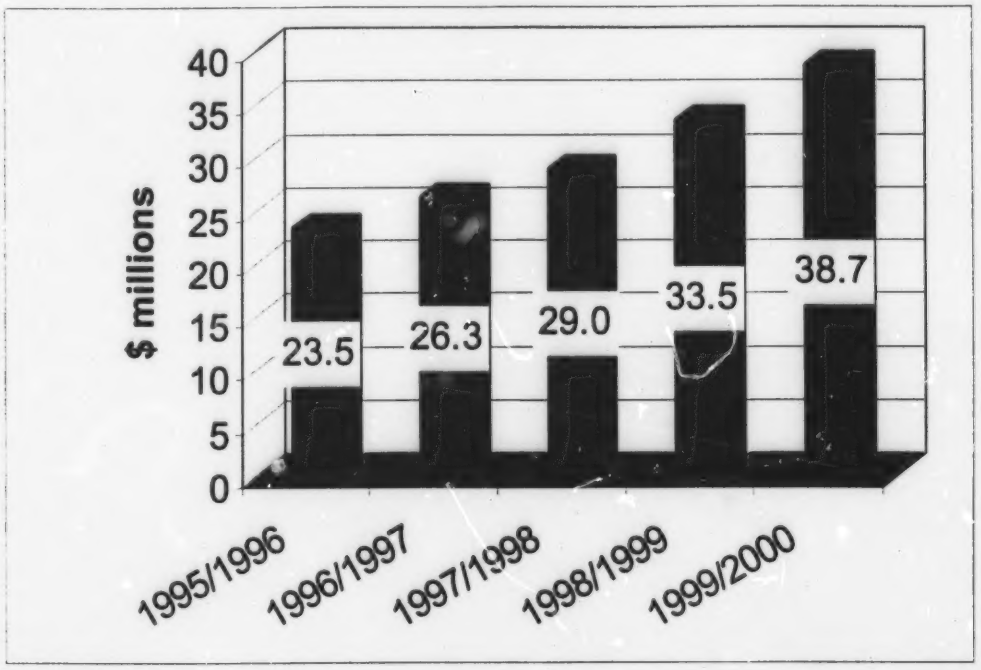
1999/2000 Science and Research Fund	
University of Alberta	$12,803,165
University of Calgary	$2,821,757
University of Lethbridge	-
Athabasca University	-
Joint projects	$1,800,000
Other	$4,883,000
TOTAL	**$22,307,923**

Innovation and Science Research Investments Program (ISRIP)
In 2000/2001, the Intellectual Infrastructure and Partnership Program was amalgamated with the Science and Research Fund into a new Innovation and Science Research Investments Program (ISRIP). It results in Alberta researchers having access to a broader pool of funding through a streamlined application process. Funding under this program is available for science and research initiatives under three distinct funding streams: Research Infrastructure (IIPP); Enabling Research Application and Technology Transfer (ERATT); and Science Awareness and Promotion (SAP).

The 2000/2001 *Research Funding at Alberta Universities* report, release in 2002, will reflect the Innovation and Science Research Investments Program.

Alberta Heritage Foundation for Medical Research (AHFMR)
1995/1996 to 1999/2000

FIGURE 7



Sources: University of Alberta: Research Grants Office; the University of Calgary: Financial Services; The University of Lethbridge: Financial Services.

- Established by the Government of Alberta in 1980, the Alberta Heritage Foundation for Medical Research (AHFMR) supports biomedical and health research at Alberta universities, affiliated institutions, and other medical and technology-related institutions. Since 1980, AHFMR has contributed more than $600 million directly to the scientific community.

- AHFMR's support and leadership has resulted in millions of dollars of support to Alberta universities and research hospitals, and has enabled Alberta to become one of the ten top medical research centres in North America.

- Grants and awards include: personnel awards and establishment grants for senior scientists, training awards for students, infrastructure grants, including equipment and conference grants, special initiative funding in health research.

- Since 1995/1996, AHFMR support to Alberta's universities has increased by 64.2%, or on average by 13% per year.

- During fiscal year 1999/2000, the AHFMR provided $20.3 million to the University of Alberta, $17.8 million to the University of Calgary, and $548,000 to The University of Lethbridge.

Commercialized Research Revenue 1999/2000

The University of Alberta and the University of Calgary generate funding through the activities of their respective technology transfer organizations, the Industry Liaison Office for the University of Alberta and University Technologies International Inc. for the University of Calgary. The impact of university research is reflected in the successes of these organizations in the growing number of licenses generating revenue, royalty revenues, and spin-off companies. These successes give an indication of the impacts of university research as it is applied and transferred to business and industry.

The University of Alberta

The University of Alberta's Industry Liaison Office (ILO) brought in over $1.6 million in licensing revenues for 1999/2000. The majority of this revenue goes back into funding research activities.

Other ILO commercialization achievements in 1999/2000 are as follows:

- 64 new inventions were disclosed;
- 69 patent applications were filed or continued;
- 15 patents were issued;
- 203 licenses, options, or agreements were signed;
- 3 new spin-off companies were formed; and
- 864 research agreements were executed.

As of March 31, 2000, 48 spin-off companies have been created; they collectively employ more than 1,500 people. 38 of them are currently active and 95% are Alberta based (100% Canadian). 58% of spin-off companies are in the life sciences sector, 25% are in the physical sciences sector, and 17% are in the information technology sector.

The University of Calgary

The University of Calgary's wholly owned technology transfer company, University Technologies International Inc. (UTI), continues to allow the University of Calgary to rank among the top Canadian universities generating royalty revenues from licensed technologies. In 1999/2000, UTI distributed $1.1 million in royalties.

In addition, UTI attracted $591,857 in Product Development Agreements to the Univeristy of Calgary and contributed $45,000 directly to post-graduate fellowships. It also made a one-time donation of $900,000 to The University of Calgary.

Also in 1999/2000, UTI:

- executed 23 new deals;
- created two start-up companies and was involved in the significant development of 12 others;
- had 100 licenses generating revenue from its portfolio of more than 300 patents; and
- had 34 patents issued.

Note: Through a formal letter of agreement between The University of Lethbridge and University Technologies International Inc., The University of Lethbridge researchers are able to access UTI's technology commercialization services.

UTI also provides technology commercialization services to other clients including government laboratories, hospitals, companies, and individuals.

Research Revenue from Investment Earnings, Networks of Centres of Excellence, and Clinical Trials. 1999/2000

Reporting Standards:

- Alberta universities follow common approaches to most of their reporting. However, there are a number of reporting differences between universities including investment earnings (primarily endowment) allocated to research expenditure, Networks of Centres of Excellence (NCE) revenue, and clinical trials funding. Standardized reporting is necessary across universities for improved comparability.

- Although attempts to standardize the reporting of these sources is ongoing, differing situations at the University of Alberta and the University of Calgary make reporting these three sources in the same manner particularly difficult. In the interim, the explanatory notes and revenues recorded below have been included in this report to ensure that this report is as inclusive of all research revenue as possible and to allow for a comparable overview of the significant revenues derived from these three sources at the University of Alberta and the University of Calgary.

The University of Alberta

Investment Earnings from Endowments

- In 1999/2000, investment earnings from endowments totaling $15,280,000 were allocated for research spending but are not included as Sponsored Research Revenue.
- Before allocating any portion of the endowment earnings for research spending, the University of Alberta normally capitalizes (re-invests) approximately half of the gross returns. In 1999/2000, however, given high net returns, it capitalized a significant additional amount for which there was no immediate spending need. The additional net investment earnings for research capitalized in 1999/2000 totaled $4,807,000. These additional earnings are not included as Sponsored Research Revenue.

Networks of Centres of Excellence (NCEs)

- As with 1998/1999, the 1999/2000 Sponsored Research Revenue Report includes net University of Alberta revenue only (gross revenue was reported in 1997/1998 and prior years). The net NCE revenue in 1999/2000 was $4.8 million. This amount is understated, as the Research Revenue Schedule in the University's Financial Statements does not breakdown any revenue received in amounts less than $50,000. These smaller amounts are included in the "Other" category of the Sponsored Research Funding Revenue table (Table 1 pg.16).

Clinical Trials

- Virtually all funds for clinical trials are received, held, and administered by the Capital Health Authority, with a small portion administered by the Alberta Cancer Board.
- Revenues for clinical trials reported by the Capital Health Authority and Alberta Cancer Board bring the total estimated clinical trials revenue for the University of Alberta to $12 million for 1999/2000. This revenue is not included in the Sponsored Research Revenue.

The University of Calgary

Investment Income

- In addition to the $123.5 million in sponsored research funding received during the year ending March 31, 2000 (see Table 1, pg. 16), the University of Calgary allocated $10,064,780 of investment income to research activities.

Networks of Centres of Excellence (NCEs)

- The University of Calgary is responsible for administering a Network of Centres of Excellence (NCE) that provides grants to researchers at universities across Canada. Funding for the NCE is provided by the Natural Sciences and Engineering Research Council (NSERC) and the Medical Research Council (MRC).
- The majority of the research grants are awarded to individuals at other universities. Accordingly, the funding provided to administer the NCE ($5.0 million for the year ending March 31, 2000) is not included as sponsored research (i.e. not included in Table 1, pg. 16).

Clinical Trials

- The University of Calgary has entered into an agreement with the Calgary Regional Health Authority with respect to the administration of industry sponsored, patient-based clinical research. Under this agreement, the researcher has the option of administering the financial resources of each individual clinical trial through the financial system of either the University or Regional Health Authority, regardless of the physical location of where the clinical trial is held. To date, the majority of these clinical trials are administered through the University's financial system.
- Total clinical trial revenue for 1999/2000 is $9.71 million and is not included as sponsored research revenue.

TABLE 1: Sponsored Research Funding Revenue (in thousand dollars)

SOURCES		RECIPIENT	1997-98	1998-99	1999-2000
FEDERAL GOVERNMENT	NSERC	Alberta	25,701	25,719	31,374
		Calgary	11,616	13,050	17,832
		Lethbridge	1,172	1,189	1,407
		Athabasca	22	29	9
	SSHRC	Alberta	4,043	2,788	5,428
		Calgary	909	1,157	2,916
		Lethbridge	98	73	139
		Athabasca	163	81	71
	MRC	Alberta	16,259	16,887	19,170
		Calgary	11,211	12,345	14,041
		Lethbridge	110	143.5	227
		Athabasca	0	0	0
	CFI	Alberta	0	585	8,133
		Calgary	0	1,093	6,378
		Lethbridge	0	0	150
		Athabasca	0	0	0
	OTHER	Alberta	4,582	7,090	6,418
		Calgary	2,992	3,543	4,908
		Lethbridge	137	302	220
		Athabasca	212	97	108
	Subtotal	Alberta	50,585	53,069	70,523
		Calgary	26,728	31,187	46,076
		Lethbridge	1,517	1,707.5	2,143
		Athabasca	397	207	189
ALBERTA GOVERNMENT	AHFMR	Alberta	15,317	17,207	20,330
		Calgary	13,572	16,064	17,780
		Lethbridge	160	220	548
		Athabasca	0	0	0
	IIPP	Alberta	1,320	2,442	9,543
		Calgary	2,927	8,976	5,988
		Lethbridge	332	180	13
		Athabasca	42	47	45
	REE	Alberta	1,889	1,926	1,108
		Calgary	1,353	1,309	1,055
		Lethbridge	210	210	210
		Athabasca	48	55	85
	S&R FUND - ASRA	Alberta	Reporting for this source begins in 1998-99	1,662	8,554
		Calgary		420	2,233
		Lethbridge		0	0
		Athabasca		0	0
	ISRIP	Alberta	Reporting for this source begins in 2000/2001		
		Calgary			
		Lethbridge			
		Athabasca			
	OTHER	Alberta	7,449	11,949	16,958
		Calgary	2,795	2,394	7,381
		Lethbridge	272	358	131
		Athabasca	14	21	0
	Subtotal	Alberta	25,975	35,186	56,493
		Calgary	20,647	29,163	34,437
		Lethbridge	974	968	902
		Athabasca	104	123	130
OTHER GOVERNMENT		Alberta	2,433	2,538	6,435
		Calgary	721	884	1,071
		Lethbridge	30	83	88
		Athabasca	69	0	0
BUSINESS		Alberta	16,494	22,427	22,143
		Calgary	19,050	21,740	20,873
		Lethbridge	59	303.5	110
		Athabasca	5	4	4
NON-PROFIT		Alberta	13,800	12,325	15,611
		Calgary	12,022	15,887	20,361
		Lethbridge	108	191	193
		Athabasca	0	0	0
OTHER		Alberta	639	823	1,310
		Calgary	2,014	2,074	634
		Lethbridge	29	42	228
		Athabasca	0	0	0
TOTAL Note: Totals may not add due to rounding		Alberta	109,926	126,368	172,515
		Calgary	81,182	100,935	123,452
		Lethbridge	2,717	3,295	3,864
		Athabasca	575	334	323
		All	194,400	230,932	299,954

Sources: The University of Alberta: Research Grants Office; the University of Calgary: Financial Services; The University of Lethbridge; Financial Services; Athabasca University: Office of the Vice-President, Academic.

TABLE 2: Intellectual Infrastructure Partnership Program (IIPP) 1999/2000 Strategic Development Program Project List

Proposal Title, Institution & Faculty	Proposal Description	Sector	Total cost	Total IIPP
Innovative Instrumentation for Advanced Proteome Research (U of A/Science)	Equipment to develop new technologies for proteome research	Biotechnology	$1,440,115	$576,000
Development of a Multi-Sensor Lab for Real-Time Positioning, Mapping and GIS Applications (U of C/Engineering)	Equipment to establish a multi-sensor laboratory in the department of Geomatics Engineering	Other	$1,995,000	$664,000
Nuclear Magnetic Resonance for New Catalysts, Drugs and Materials (U of A/Science)	Equipment to upgrade NMRs for chemistry research	Biotechnology	$750,000	$260,000
Infrastructure for Research on Performance Assessment for Structural Materials (U of A/Engineering)	Equipment and modernization of facilities for research into engineered materials and for full-scale structural testing	Other	$2,200,000	$845,300
Image-Guided Adaptive Radiotherapy (IGAR) (U of A/Cancer Board/Medicine)	Equipment for state-of-the-art clinical research in oncology and medical physics	Biotechnology	$2,400,000	$957,000
NeuroScience Building (U of L/Science)	Construction and equipping of new building to accommodate neuroscientific and related research	Biotechnology	$6,300,000	$4,500,000
Canadian National Site Licensing Project—Alberta Component (U of A; U of C; U of L; AU) (Multi-Faculty/all Universities)	Funding to help purchase site licenses for electronic journals at Alberta universities' research libraries	ICT	$5,388,800	$2,155,600
Protein Identification and Analysis by Mass Spectrometry (U of C/Medicine)	Equipment for proteomics and related research	Biotechnology	$1,735,123	$788,123
Antennas for New Generations of Wireless Systems (U of C/Engineering)	Equipment to establish an integrated facility for the design, simulation, and measurement of advanced antennas	ICT	$363,100	$137,300
Solid State Structure Determination by a CCD Single Crystal X-Ray Diffractometer (U of C/Science)	Instrumentation for X-ray diffraction and structural characterization	Biotechnology	$443,000	$169,000
Rozsa Centre Multimedia Performance Gallery (U of C/Fine Arts)	Construction and equipping of a state-of-the-art facility for multimedia research and performance	Other	$1,600,000	$550,000
Laser Cooling and Imaging of Ions (U of C/Science)	Instrumentation for laser cooling and ion trapping	Other	$497,093	$199,000
Renovations and Expansion of the University's Life Sciences Research Station (U of C)	Construction and equipment for research conducted at animal care facility	Biotechnology	$11,800,000	$8,000,000
Food for Health Innovations—Phase 2 (U of A)	Equipment and modernization of facilities for research into swine nutrition and reproduction, agri-food processing technologies, and human nutritional studies	Agriculture	$6,560,000	$3,160,000
Integrated Thermal Characterisation (U of C)	Equipment to comprise state-of-the-art thermal characterisation facilities for analysis of materials	Energy	$760,000	$190,000
An Integrated System for Compound Identification and Analysis (U of C)	Equipment for state-of-the-art compound-specific analysis isotope analysis	Other	$469,200	$187,450
Child Health Research Centre (CRHA/U of C)	Construction and equipping of a building for pediatric clinical research and related activities	Biotechnology	$15,129,000	$690,000
		TOTAL	$59,830,431	$24,028 ,773

TABLE 3: Science and Research Fund 1999/2000 Project List

Project Title	Institution	Total Project Cost	S&R Fund
Carbon Dioxide Sequestration in Geological Media in Alberta	AEUB	$800,000	$240,000
Sustainable Development of Coalbed Methane: Phase IIIA	ARC/AEUB	$3,650,000	$1,500,000
Alberta Science Literacy Association Science Education Outreach Project	ASLA/Science Alberta Foundation	$4,134,000	$270,000
The New Media Institute Human Centered Interface Design project	Banff Centre	$7,717,500	$600,000
Flaring Technology Research Program	Cdn Petroleum Assoc.	$1,719,000	$373,000
Scientist 2010 Computers	Edmonton Space & Science Centre	$3,500,000	$100,000
Alberta Advanced Networking Infrastructure 2002	Netera Alliance	$27,200,000	$1,800,000
Constructing Knowledge Communities in Face-to-Face and Virtual Environments	The Galileo Educational Network Association (UofC)	$4,945,000	$600,000
A Diode Laser Based Gas Sensor for Environmental Monitoring	U of A	$264,500	$58,500
Atom Manipulation Facility	U of A	$1,886,000	$425,000
Centre for NMR Evaluation of Human Function and Disease	U of A	$12,355,730	$4,382,865
Development of a Wear/Surface Protection Program	U of A	$1,225,000	$499,800
Equipment Infrastructure for Olefin Polymerization Laboratory	U of A	$546,237	$91,500
Assessing Fluid Flow Characteristics in Bioturbated Media	U of A	$190,000	$125,000
Flow Cytometer for Detection and Evaluation of Disinfection of Human Protozoa, Giardia and Cryptosporidium in Drinking Water	U of A	$646,000	$131,000
Fundamental Geomechanics for Geological Sequestration of Greenhouse Gasses	U of A	$821,000	$627,000
Infrastructure for Shallow Geophysical Studies	U of A	$1,836,000	$776,000
Polymeric Organic Materials for Applications in Information and Communications Technology	U of A	$1,367,000	$259,000
Research Infrastructure for Experimental Computing	U of A	$2,742,000	$1,322,500
Sources, Deposition and Bioaccumulation of Mercury in Alberta	U of A	$610,000	$305,000
U of A Research Transition Facility	U of A	$3,572,000	$1,500,000
Medical Cyclotron Facility	U of A / Alberta Cancer Board	$6,654,800	$2,200,000
Development of the Alberta Plant Diversity and Conservation Centre	U of A/ Devonian Botanical Garden	$3,291,000	$100,000
Alberta Software Engineering Research Consortium	U of A/U of C	$5,517,000	$1,800,000
Biotechnology Training Centre	U of C	$853,000	$493,000
Canadian Process Tomography Consortium	U of C	$3,190,000	$435,000
Electron Probe Microanalyzer	U of C	$1,611,000	$180,000
Neutraceutical Treatment of Mental Disorders	U of C	$926,957	$588,757
Translational Molecular Biology Research in Breast Cancer	U of C	$1,832,000	$525,000
	TOTAL	$105,602,724	$22,307,922